



Derivatisation Strategies to Quantify Androgens and Estrogens and Enable Isomer Separation by Ion Mobility

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6th ENOR Symposium

29-30 September 2016

University Paris Descartes, Paris, France
45 rue des Saints-Pères, 75270 PARIS

September 29th 2016

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| 8 h 30 - 9 h 00 | Registration |
| 9 h 00 - 9 h 15 | Opening of the symposium : C. Massaad, L. Iuliano, G. Lizard |
| 9 h15 - 10 h 15 | Plenary Session Antonio Moschetta (<i>University of Bari, Italy</i>) Nuclear Oxysterol Receptor LXR and the Reverse Cholesterol Transport: relevance in atherosclerosis and fatty liver. |
| 10 h 15 - 10 h 45 | Coffee break – poster session |
| <hr/> <i>Session 1 : Detection of oxysterols</i> <hr/> | |
| 10 h 45 – 11h 05 | Steven Ray Wilson (<i>Department of Chemistry, University of Oslo, Norway</i>) “Sub-chip” liquid chromatography-mass spectrometry for measuring oxysterols and related proteins. |
| 11 h 05 – 11 h 20 | Sabrina Krautbauer (<i>Regensburg University Hospital, Regensburg, Germany</i>) Relevance of appropriate internal standards for accurate quantification using LC-MS/MS – analysis of tauro-conjugated bile acids as an example. |
| 11 h 20 - 11 h 40 | Ruth Andrew (<i>University of Edinburgh, UK</i>) Derivatisation strategies to quantify androgens and estrogens and enable isomer separation by ion mobility mass spectrometry (IMS-MS). |
| 11 h 40 -12 h 10 | Yuqin Wang (<i>Swansea University Medical School, UK</i>) Oxysterols generated during motor neuron differentiation differentially regulate the hedgehog signalling pathway. |
| 12 h 10 – 12 h 30 | Silke Matysik (<i>Institute for Clinical Chemistry and Laboratory Medicine, University Hospital Regensburg, Germany</i>) Analysis of steroid hormones – LC-MS vs. immunoassay: a practical consideration. |
| 12h30 – 14h15 | Lunch and Poster session |

Session 2 : Neuroscience

- 14 h 15 - 14 h 45 **Nathalie Cartier** (INSERM U1169 MIRCen CEA, University Paris Sud, France) **Targeting CYP46A1 to restore impaired cholesterol metabolism in Alzheimer disease.**
- 14 h 45 - 15 h 05 **Sandrine Betuing** (University Pierre et Marie Curie Paris 6, Paris, France) **CYP46A1 expression is neuroprotective in Huntington's disease mice.**
- 15 h 05 - 15 h 25 **Othman Ghribi** (University of North Dakota, USA) **Regulation of α -synuclein levels by 27-hydroxycholesterol. Relevance to synucleinopathies**
- 15 h 25 - 15 h 45 **Ingemar Björkhem** (Karolinska Institutet, Stockholm, Sweden) **What is the driving force for the flux of oxysterols across the blood-brain barrier?**
- 15 h 45 - 16 h 05 **Charbel Massaad** (University Paris Descartes, Paris France) **Dual role of LXR in myelination in the central and peripheral nervous system.**
- 16 h 05 - 16 h 25 **Weihong Song** (The University of British Columbia, Vancouver Canada) **A Familial Multiple Sclerosis-associated - Pathogenic mutation in NR1H3 gene.**
- 16 h 25 - 16 h 45 **Coffee break and poster session**

Session 3 : Nutrition and oxysterols biological activities

- 16 h 45 - 17 h 05 **Meryam Debbabi** (University Bourgogne Franche Comté / INSERM, Dijon, France) **Evaluation of the effects of major compounds present in the Mediterranean diet (oleic acid, docosahexaenoic acid, α -tocopherol) and hydrogenated oils (elaidic acid) on 7-ketocholesterol-induced oxidative stress and cell death on microglial BV-2 cells.**
- 17 h 05 - 17h 25 **Caroline Pot** (Department of Clinical Neurosciences, Lausanne, Switzerland) **Interleukin-27 induces oxysterols that regulate CD4 T cell response via LXR signaling.**
- 17 h 25 - 17 h 45 **Elodie Olivier** (UMR CNRS 8638, Université Paris Descartes, Paris, France) **Role of P2X7 cell degenerescence receptor and granzyme B in 25-hydroxycholesterol-induced apoptosis and degenerative pathways in skin.**
- 17 h 45 - 18 h 05 **Ségolène Gambert** (Centre des Sciences du Goût et de l'Alimentation. UMR 1324 INRA, 6265 CNRS, Université Bourgogne Franche Comté, Dijon, France) **Cholesterol metabolism and glaucoma: modulation of Muller cells membrane organisation by 24S-hydroxycholesterol.**

Event Dinner

September 30th 2016

9 h 30 - 10 h 30 **Plenary Session**
Ned A. Porter (*Vanderbilt University, Nashville, USA*) **Perturbations of sterol omeostasis: the formation of toxic oxysterols as a consequence of genetics or small molecule exposures.** h

10 h 30 - 11 h 00 **Coffee break and poster session**

Session 4 : Cancer

11 h 00 - 11 h 30 **Jean Marc Lobaccaro** (*UMR CNRS6293-INSERM U1103 and CRNH - Auvergne, France*) **Prostate cancer, cholesterol and LXRs: the impossible triad ...**

11 h 30 - 11 h 50 **Julie Leignadier** (*UMR-1037 INSERM-University of Toulouse, CRCT, Toulouse, France*) **The oxysterol dendrogenin A: an alternative against breast cancers resistant to hormonotherapy.**

11 h 50 – 12 h 10 **Hanne Røberg-Larsen** (*Department of chemistry, University of Oslo, Norway*) **27-hydroxycholesterol in cancer exosomes – potential new separation method?**

12 h 10 - 12 h 30 **Nada Zabaïou** (*Université Clermont Auvergne, Université Blaise Pascal, France*) **Propolis has androgen receptor antagonist activity and affects prostate cancer survival.**

12 h 30 - 14 h 00 **Lunch and poster session**

Session 5 : Energy metabolism and stress

14 h 00 - 14 h 20 **Sergio Bydlowski** (*University of São Paulo Medical School, Sao Paulo, Brazil*) **Outside-in, inside-out: Proteomic analysis in endothelial stress mediated by 7-ketocholesterol.**

14 h 20 - 14 h 40 **Valerio Leoni** (*Hospital of Varese, Varese, Italy*) **Evidences of an impairment of cholesterol metabolism associated to mitochondrial dysfunction. A metabolomic approach based on mass spectrometry.**

14 h 40 - 15 h 00 **Vesa M. Olkkonen** (*Minerva Foundation Institute for Medical Research, Helsinki, Finland*) **The involvement of ORP2 in cellular energy metabolism.**

15 h 00 – 15 h 20 **Gerd Schmitz** (*Institute for Clinical Chemistry and Laboratory Medicine, University Hospital Regensburg, Germany*) **The plasma elimination rate of current lipoprotein apheresis methods differs for lipoprotein remnants, HDL-particles, oxysterols, cholesterol precursors and phytosterols.**

15 h 20 - 15 h 35 **Coffee Break**

Session 6: Oxysterol metabolism and agonist of LXRs

- 15 h 35 – 16 h 05 **Marc Poirot** (*UMR-1037 INSERM-University of Toulouse, CRCT, Toulouse, France*) **Oxysterols and Cancer.**
- 16 h 05 - 16 h 25 **Fermin Castro Navas** (*University of Perugia, Perugia, Italy*) **Side-Chain Modified Stigmasterol and Ergosterol Derivatives as Liver X Receptor Agonists.**
- 16 h 25 - 16 h 45 **Shubhrima Ghosh** (*Indian Institute of Technology Delhi, Delhi, India*) **Microbial degradation of cytotoxic 7-Ketocholesterol and mining therapeutic enzymes.**
- 16 h 45 - 17 h 05 **Andrei A. Gilep** (*Institute of Bioorganic Chemistry, Minsk, Belarus*) **Identification of *Mycobacterium tuberculosis* enzymes involved in metabolism of immunoactive sterols.**
- 17 h 05 - 17 h 15 **Coffee Break**
- 17 h 15 – 18 h 00 **General assembly**
Round table discussion of ENOR activities
- 18 h 00 – 18 h 15 **Poster Awards and closing remarks** (G. Lizard, L. Iuliano, C. Massaad)